Acquisition Policy Update

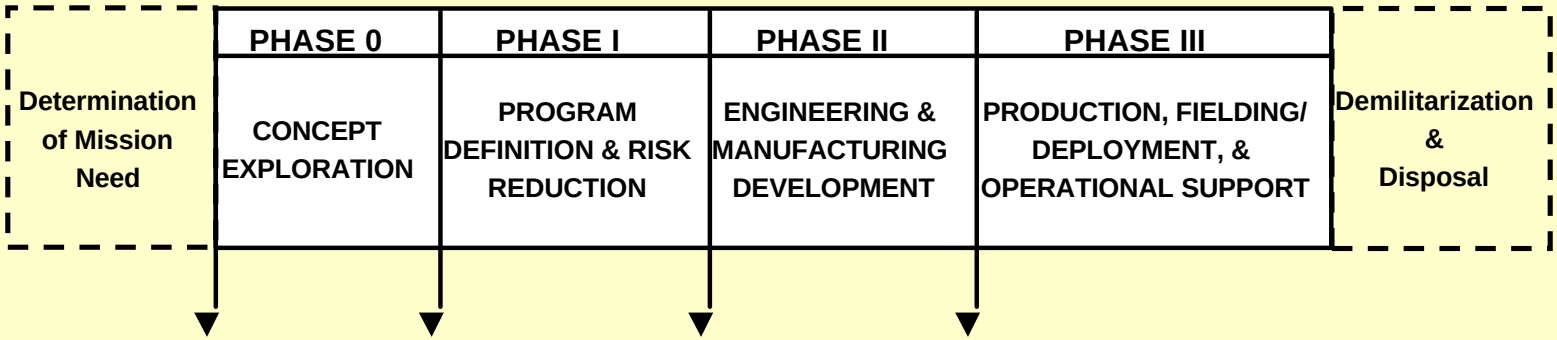
Test Process Oversight Committee

30 March 2000

Prospective Changes to DoD 5000 series - Discussion and Speculation

Acquisition Milestones and Phases

(Late Twentieth Century Version)



MS 0

Approval to Conduct Concept Studies

MS I

Approval to Begin a New Acquisition Program

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Approval to Enter Engineering & Manufacturing Development

MS III

Production or Fielding/ Deployment Approval

DR. GANSLER'S TESTIMONY ON ACTIONS NEEDED TO AVOID A MODERNIZATION "DEATH SPIRAL"

- Termination of contracts for a number of traditional weapon systems to fund required newer systems
- Drastic improvement in cycle times
- Competitive sourcing of all but inherently governmental functions
- Rapid reduction in the civilian and military workforce
- Significant increases in investments for reliability enhancements
- Widespread implementation of acquisition reforms
- Elimination of current barriers to civil/military industrial integration
- Full transformation of the complete DOD logistics system
- Full transformation of the U.S. military tactics, doctrine, and structure

Major Objectives of New Acquisition Policy

- Develop a new acquisition model that reduces cost and cycle time while delivering improved performance
- Move DoD closer to a commercial-style approach
- Implement Section 912 recommendations
- Implement other reports and key initiatives
- Further streamline the acquisition process

Codify above changes in a new version of DoD 5000 series documents

Problems With Current Policy

- Treats ACTDs, and other innovations, as “non-traditional” excursions
- Treats evolutionary block approaches as “non-traditional” excursions
- Endorses tailoring but provides no amplifying guidance to assist strategy development
- Provides no institutionalized path for demonstration and accelerated development of innovative design and employment concepts

New 5000 needs to facilitate tailoring by providing guidance on alternative acquisition strategies

A NEW APPROACH

- *Multiple process paths* - not just one way of entering the acquisition process
- *Evolutionary acquisition* is the preferred approach
- Focus on *technology development* and *risk reduction* prior to program commitment (Technology Readiness Levels)
- Timing of *funding commitment* and *program initiation* varies with maturity of technology and concept
- *Flexible, time-phased requirements* facilitate CAIV trades
- *Rigorous exit criteria* before program commitment
- *Potential milestone points*: X (Exploration), D (Demonstration), and C (Commitment)

Faster, Better, Cheaper

The 5000 Model

9 Mar 2000

Technology Opportunities & User Needs

(BA 1 & 2)

Program Outyear Funding

MS C EXIT CRITERIA

- ☑ *Demonstrated system*
- ☑ *Approved ORD & assured interoperability*
- ☑ *Affordability assessment*
- ☑ *Strategy in place for evolutionary approach, production readiness, and supportability*

- **MS X**: Initiation of ***exploration*** phase
- **MS D**: ***Demonstration*** phase.
- **MS C**: ***Commitment*** to rapid acquisition.

- **Multiple entry points** possible depending on technical/concept maturity
- **Three basic options at each decision point**: Proceed into next phase; do additional work; terminate effort
- **Reviews** are in-phase decision/progress points held as necessary

X X D D C

IOC

Single Step or Evolution to Full Capability

Concept Exploration	Component Advanced Development	System Integration	System Demo	Production Readiness & LRIP	Rate Production & Deployment	Support
	Review		Review		Review	
Concept & Tech Development		Risk Reduction & Demonstration		Production & Deployment		

Continuous communication with users

Early & continuous testing

BLOCK II

BLOCK III

Funding

BA 3	BA 4	BA 5	BA 5/Proc	Proc/Operations & Maintenance

Requirements

MNS	ORD

All validated by JROC

Concept Exploration

- Paper studies of alternative concepts for meeting a mission
- Exit criteria: Specific concept to be pursued & technology exists.

Component Advanced Development

- Development of subsystems/components that must be demonstrated before integration into a system
- Concept/tech demonstration of new system concepts
- Exit criteria: System architecture & technology mature.

System Integration

- System integration of demonstrated subsystems and components
- Reduction of integration risk
- Exit criterion: System demonstration in a relevant environment (e.g., first flight).

System Demonstration

- Complete development
- Demo engineering development models
- Combined DT/OT
- Exit criterion: System demonstration in an operational environment.

Prod Rd/LRIP

- IOT&E, LFT&E of prod-rep articles
- Create manufacturing capability
- LRIP
- Exit criterion: B-LRIP report.

Rate Prod & Deployment

- Full rate production
- Deployment of system

Acquisition Milestones and Phases

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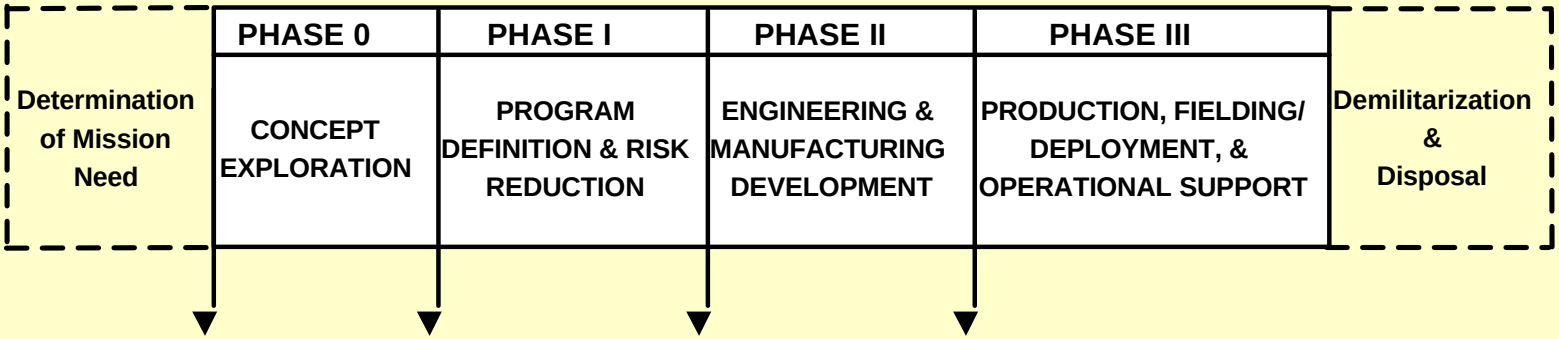

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Key Focus Areas

- Rapid acquisition with demonstrated technologies
- Implement time-phased requirements and evolutionary development
- Strengthen focus on modular, open-systems design
- Strengthen implementation of supporting tools (e.g., use of COTS)
- Integrate test and evaluation
- Strengthen focus on interoperability and system-of-systems issues
- Integrate acquisition and logistics
- Cost as a requirement that drives design, procurement and support
- Increased competition

Integrated Test and Evaluation

- Early, up-front involvement of T&E community in requirements process
- Conduct early operational assessments
- Development of preliminary T&E plans early in the process
- Adapt T&E for spiral development approaches
- Develop T&E approaches for life-cycle cost and supportability, interoperability, and information assurance

Technology Readiness Levels (TRL)

Adapted from Appendix 6 to draft DoD 5000.2-R

TRL #1 - Basic principles observed & reported
TRL #2 - Technology concept and/or application formulated
TRL #3 - Analytical & experimental critical function and/or characteristic proof of concept
TRL #4 - Component and/or breadboard validation in laboratory environment
TRL #5 - Component and/or breadboard validation in relevant environment
TRL #6 - System/subsystem model or prototype demonstration in a relevant environment
TRL #7 - System prototype demonstration in an operational environment
TRL #8 - Actual system completed and qualified through test & demonstration
TRL #9 - Actual system proven through successful mission operations

Interoperability & System-of-Systems Issues

- Interoperability as a KPP
- Capstone Requirements approaches
- Review current interoperability directives, instructions, regulations, and policy memoranda for alignment with new approach and potential consolidation into the 5000 series
- Modify DAB process such that DAB conducts mission-area reviews (not just specific program reviews)
- Portfolio Reviews

New 5000 Documents - What to Expect

- Three documents are in work
  - DoD Directive 5000.1
  - DoD Instruction 5000.2
  - DoD Regulation 5000.2-R
- DoD Directive 5000.1
  - High level policy for ALL systems
  - Substantial re-write of current document

New

New 5000 Documents - continued

- DoD Instruction 5000.2
  - General management approach for ALL programs
  - Describes new life cycle process
    - Some material drawn from current DoD 5000.2 Regulation
- DoD Regulation 5000.2-R
  - Mandatory procedures for ACAT I programs
- When might they be approved:
  - Directive and Instruction: End of April / early May
  - Regulation: End of May / early June

Implementation Challenges

- Cost and logistics implications of evolutionary strategies
- User willingness to time-phase their demands and accept incremental fielding
- Organization and management structure for Demonstration projects
- PPBS implications
  - Funding successive blocks
  - Likely shift from Systems Development to Advanced Development
  - Transition funding for successful demonstrations
- Education and training
  - Need to ensure phased implementation approach (‘grandfathering’)
  - Plan stand downs, roadshows, virtual town halls, etc.
- Congressional issues
  - Visibility, accountability, flexibility
  - Outyear funding
  - Getting the most out of demonstrations


DEPARTMENT OF DEFENSE
SYSTEMS MANAGEMENT COLLEGE
DUCTUS · DOCTRINA · DOMINATO

BACKUPS

The 5000 Model

9 Mar 2000

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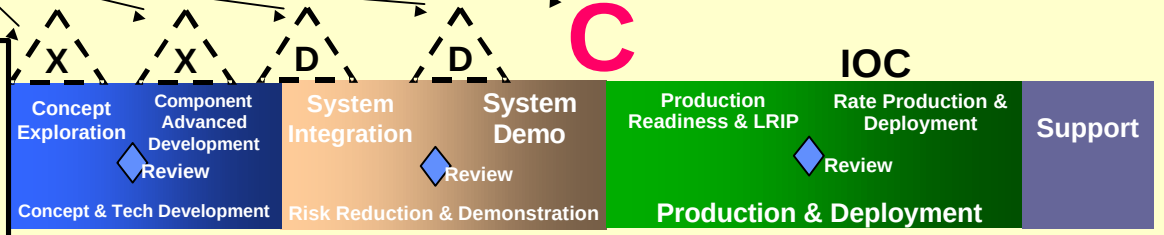

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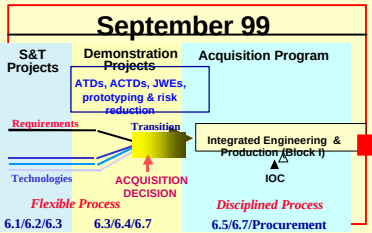
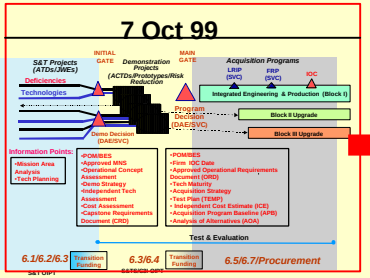
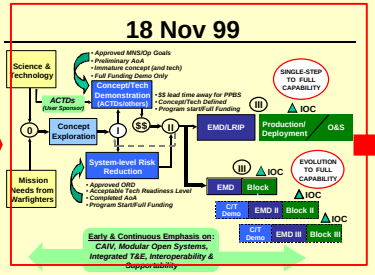
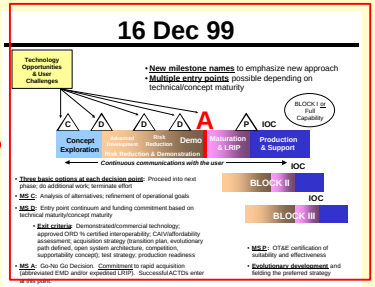
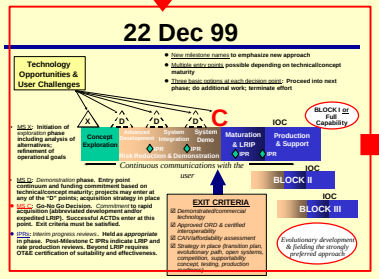
Evolution of the New Acquisition Process
'A Birth of a Notion'

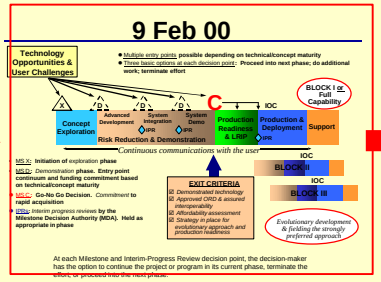


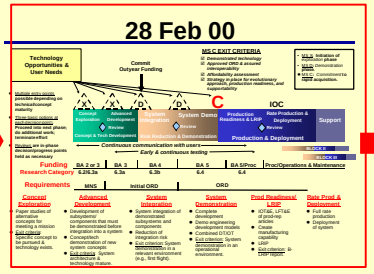


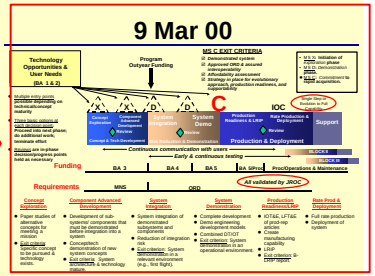












TPOC, chart no. 19

Requirements Generation

Approved Recommendations:

- Requirements intended for evolutionary acquisitions will stipulate required performance/schedule for each block
- Interoperability must be a KPP
- ORDs must include threshold and objective costs
- DoD must implement a department-wide requirements tracking system

Strengthen Implementation of Supporting Tools

- Integrated concept teams to evolve requirements and design
- Price-based acquisition
- Simulation-based acquisition
- Cost as a military requirement
- Use of COTS (not “modified” COTS)
- Rigorous cost-effectiveness analyses to assess impact of military capability over time
- Strengthen linkage between S&T technology scanning and requirements development